

# Multiple-choice questions

## Question 1

Abiotic factors can have a huge impact on the ability of an organism to survive in a particular terrestrial environment. An example of such an abiotic factor is:

- A water temperature
- B number of predators
- C amount of rainfall
- D amount of vegetation

## Question 2

There are various devices used to measure abiotic factors in an aquatic environment. These include:

- A barometer for measuring pH
- B Secchi disk for measuring pressure
- C hygrometer for measuring humidity
- D indicator paper for measuring turbidity

## Questions 3, 4 and 5 relate to the following information.

A class of Biology students took samples of the water in the Yarra River at four different locations. The samples were then tested for indications of pollution. The count of the intestinal bacteria, *Escherichia coli*, gives a measure of faecal contamination of the water. The Victorian Government considers a count of less than 200 organisms per mL acceptable. The biological oxygen demand (BOD) gives an estimation of sewerage pollution by measuring the oxygen needed by microorganisms to remove the organic matter present in a water sample. Measured in milligrams (mg) per litre (L), a BOD value of less than 2 mg/L is considered acceptable and unpolluted. The table below summarises the students' results.

Location	Approximate distance from river mouth (km)	<i>E. coli</i> count (number/mL)	BOD (mg/L)
Yarra Glen	100	<100	1.5
Warrandyte	50	190	3.4
Hawthorn	15	20 000	11.3
Docklands*	3	900	4.2

\*Tidal area, may affect readings

## Question 3

Which of the locations along the Yarra River would be regarded as the least healthy for children to swim?

- A Yarra Glen
- B Warrandyte
- C Hawthorn
- D Docklands

## Question 4

Which of the following best explains the difference between *E. coli* counts at Warrandyte and Hawthorn?

- A The river passes over a series of rapids between Warrandyte and Hawthorn.
- B The river at Warrandyte has many fish in it; there are fewer fish in the river at Hawthorn.
- C Pollution from road run-off and leaking sewers has collected in the river between Warrandyte and Hawthorn.
- D More people have picnics by the river at Hawthorn than they do at Warrandyte.